- Carrier access is a large fraction of the costs of the three IXCs who compete vigorously in retail long distance markets where a small discount in the price paid for carrier access would translate into a significant competitive advantage.

Thus an addressability standard of 25 percent of the demand appears to be a reasonable, conservative threshold, above which the benefits from an increased ability for the LECs to respond to competitive pressure is likely to outweigh the possible cost from exploitation of market power. Where the same small number of large firms meet in multiple geographic and product markets as buyers and sellers of a homogeneous product that is large proportion of the buyers' expenditure, the presence of a single competitive alternative can result in immediate price reductions to all customers.[52]

Second since the total market supply is comprised of the incumbent LEC and new competitors, an estimate of known supply capacity for all carriers would be useful. At the very least all carriers--dominant and non-dominant--should identify its serving areas (e.g., maps, zip codes, etc.) in the tariffs it files with the FCC.

Finally, it is worth observing that the criterion of addressability captures the most immediate and important effects of remaining barriers to entry. If a large fraction of demand is addressable, then it is evident that the CAPs have successfully entered the market. The point is that the addressability criterion relies on actual entry into the local exchange. Such actions, themselves, constitute the best evidence that entry barriers are not so formidable as to preclude competitive entry.

C. Demand Responsiveness

The demand for carrier access services is a factor demand, not a consumer demand. In economic terms, it is a "derived" demand, depending ultimately on the underlying consumer demand for long distance services. In the theory of the firm, demand for factors of production

[52]In contrast, IXCs have been able to avoid price reductions for low-volume customers, while lowering average revenue per minute through low-priced services to high-volume customers.

depends on the quantity of final output produced and the relative prices of all inputs to the production process. Demand responsiveness, in this context, refers to the willingness of IXCs to change suppliers of carrier access services in response to changes in the relative prices of their services. It is likely that differences in relative prices in these markets play a much more significant role in the determination of demand responsiveness than in the consumer demand markets the FCC examined in determining demand responsiveness for regulatory streamlining of AT&T services. Here, there is not a significant amount of product differentiation and little room for a variety of consumer preferences or tastes for different product characteristics. The services of different suppliers of carrier access services are technically similar and can easily be objectively compared by the small number of extremely knowledgeable firms that buy services in these markets. In addition, because carrier access services are a large fraction of the total cost of long distance services -- which, in turn, are supplied in competitive markets -- each IXC has every incentive to extract the lowest possible price from any actual or potential supplier of carrier access services, and, indeed, to supply the services itself if that alternative proves to be more cost-efficient.

Thus, in the short run, demand for services of alternative suppliers will depend, almost entirely, on the proportion of demand suppliers address and can serve with relative ease in the relevant markets in question. Of course, evidence (e.g., advertising campaigns) of the willingness of IXCs to switch suppliers could be supplied as well as by results from competitive bids or RFPs. Since the same three major consumers in these geographic markets appear in each geographic market, it would be unnecessary to ascertain their willingness to substitute away from the incumbent LEC in each market.

D. Conditions of Entry

Market power, however acquired, cannot persist in the absence of barriers to entry. Without entry barriers, any elevation of price above the competitive level would attract entry, expand market demand and reduce the market price towards the competitive level. To assess entry standards for relaxed regulation, however, we must be careful to distinguish between low

and high volume customer segments. For high-volume customer locations, the presence of barriers to entry into local competition posed by state regulation are moot because such customers can choose among competing carrier access suppliers even if there are no competing local service providers. In order to assure that the market for small-volume customers has been effectively opened to competition, however, it is necessary that local exchange markets be opened to competition.[53] Thus for small-volume customers, adoption of streamlined regulation should be conditioned on the opening of the local exchange market to competitive entry, where such opening could be objectively determined by (i) the authorization by state regulatory or legislative authority of local competition or local competitors, or (ii) the certification of at least one local competitor.

It is imperative to remember that if competitors are operating in the market, entry barriers cannot have been insurmountable.[54] Thus, in states where regulators have sanctioned resale and facilities-based local competition and competitors are operational, the issue of market entry is moot. Here, even the small-volume business location market segment is opened for competition, so that regulatory barriers will not prevent competitive entry from beginning to control the exercise of market power. When entry has progressed to the point that the addressability criterion is met, streamlined regulatory treatment will benefit all customers without exposing small-volume customers to exploitation.

V. NONDOMINANT REGULATION

The framework used in the previous section on streamlined regulation is applicable to the analysis of nondominant regulation. In fact, the only operational differences between the relief

[53]In this customer segment, it would be unusual to have separate carrier access and local service suppliers, so that if no competitive local service alternative were available, such customers would generally not be addressable by a CAP.

[54]Actual entry provides the strongest possible evidence on this point, but it does not prove that no barriers are present. If prices are inefficiently high because of regulation or market power, inefficient entry may occur despite the presence of barriers. Thus changes in baseline regulation are needed to control inefficient entry in current access markets.

granted under streamlined and nondominant regulatory structures is the notice period after tariffs are filed -- one-day notice under nondominant rather than the 14-days' notice. Such a difference may seem insignificant given the other benefits of streamlined regulation, such as services removed from price cap regulation and tariff filings without cost support, but as the FCC noted in its AT&T nondominance ruling, competition is better served by eliminating mechanisms which seem to foster tacit price collusion. Furthermore, price information is proprietary and highly sensitive in other competitive markets and there are no requirements that sellers provide price lists for all of their competitors to review. Once carrier access in relevant markets becomes sufficiently competitive, the FCC's requirements should be minimal and unobtrusive to incumbents and entrants alike.

In its recent reclassification of AT&T as nondominant in the supply of domestic long-distance services, the FCC adopted a wide geographic and product market definition and found that, on the whole, AT&T did not possess significant market power in that market. Applying that same analysis to the geographic, product, and customer markets for carrier access services, we could envision LECs having nondominant status for particular relevant markets while retaining dominant status and corresponding regulation in others. There is nothing inherently peculiar about such a regulatory outcome. Local competition takes place in local markets, and if regulation is to keep pace with the reduction in the regulated firm's market power, there will inevitably be a dispersion of regulatory constraints across regions.

Economists are careful to note that continued regulation has very real costs in telecommunications markets, and if an error must be made, it should be made in favor of premature deregulation rather than continued unnecessary regulation. An example of such regulation might be the tariff filing requirements that pertained to AT&T as a dominant carrier and the inadvertent effect of those requirements to facilitate tacit price coordination among the large IXCs. In its Non-Dominant Order, the FCC notes that

> the evidence in the record is conflicting and inconclusive as to the issue of tacit price coordination among AT&T, MCI and Sprint with respect to basic schedule rates or residential rates in general...We believe, however, that this problem, to the extent it may exist, is a problem generic to the interexchange industry and not specific to AT&T. We thus believe these concerns are better addressed by

> removing regulatory requirements that may facilitate such conduct, such as the longer advance notice period currently applicable only to AT&T...[55]

Over-regulation is not benign, and uncertainty in its application should be judged in favor of less, rather than more.

Finally, as we discussed in the context of streamlined regulation, barriers to entry theoretically can constitute an important constraint on the supply response of potential competitors. As the Notice observes for immediate baseline reforms to regulation:

> lowering entry barriers is the most appropriate mechanism for conditioning additional price cap flexibilities because additional flexibilities within the price cap framework are forms of regulatory relief that are intended to allow the LECs to respond to emerging competition, and in some cases that allow efficient competition to occur.[56]

To classify a LEC as non-dominant in a market -- i.e., to certify the absence of significant market power in that market -- it is thus necessary to require that regulatory entry barriers, in fact, be absent. Key to such a requirement for small-volume business locations is the removal of regulatory entry barriers to local competition. Evidence of this removal is that local competition is permitted and that the LEC in question has complied with whatever requirements the state has established to implement local competition. Under these circumstances, initial entry and expansion by competitors could not be constrained by the LEC's adaptation to local exchange competition, and, in concert with the more stringent standard for addressability, meeting such entry barrier requirements would fully justify non-dominant regulatory treatment in the market in question. However, we must stress that if the state markets are legally open to competition and state regulators certify that the incumbent is meeting all of the competitive criteria, then market entry is not an issue in that jurisdiction.

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[55]AT&T Non-Dominant Order, at ¶ 83.

[56]Second Further Notice, at ¶ 106.

A. Standards for Reclassification

To an economist, nondominance is synonymous with the lack of power over price in particular relevant markets. Accordingly, to be reclassified as nondominant, a LEC service must face sufficient substitutes that the persistence of a supracompetitive price would lead customers to change suppliers. For all the reasons discussed before, the ability of competitors to supply switched services and transport to particular customers in a wire center is both necessary and sufficient to determine the LEC's degree of market power. Thus to reclassify a LEC as nondominant for a relevant market, we must again look to the proportion of customer demand that is addressable by competitors' networks and by the networks of the IXCs.

As observed in our discussion of standards for streamlined regulatory treatment, separate verification of lack of barriers to entry and presence of competitors is largely superfluous. Hence, if nondominant reclassification is contingent upon a showing of actual addressability of customers by competitors, the task of identifying legal and regulatory entry barriers imposed by state regulators would be reasonable.

A more stringent addressability standard should be required for nondominant reclassification. However, there is only a tenuous link between the additional regulatory flexibility requested -- one day filing notice and no cost support -- and a reasonable additional level of competition. Advancing the required standard for addressability from customers representing 25 percent of the LEC's access demand to 50 percent probably overstates the amount of additional protection required. The Cable Act of 1992 deemed there to be sufficient competition to completely deregulate a cable market if a competitor offered service to at least 50 percent and actually served more than 15 percent of the households in the franchise area. As we noted earlier, because carrier access service is an intermediate good sold to three large, well-informed customers, the equivalent standard for a competitive market structure for carrier access should require smaller addressability and service proportions.

B. A Monitoring Approach to Regulatory Relief

A fundamental problem in determining the appropriate degree of regulation for a public utility facing competitive entry in some markets is that regulation and competition interact in the future while standards of competitiveness measure the past. Changes in the regulatory framework will lead to important changes in many indicators of competitiveness, and competitive outcomes in markets under a different regulatory framework would be difficult to predict. Thus the traditional approach to a regulatory transition which assesses current competition and changes the regulatory framework if necessary is unlikely to succeed.

The detailed measurement of demand and supply responsiveness and market entry in different product, geographic, and customer segment markets will be an extremely lengthy and expensive undertaking which -- at best -- will only capture the recent historical competitive situation. As recognized by the *Merger Guidelines*,

> Because the specific standards set forth in the Guidelines must be applied to a broad range of possible factual circumstances, mechanical application of those standards may provide misleading answers to the economic questions raised under the antitrust laws. Moreover, information is often incomplete and the picture of competitive conditions that develops from historical evidence may provide an incomplete answer to the forward-looking inquiry of the Guidelines. (§ 0).

Because of changes in technology and the opening of previously monopolized markets to competition, it is safe to bet that future competition in most carrier access markets will not be exactly like historical competition. Indeed, competition from new entrants with old (e.g., cable) and new (e.g., wireless) technology is likely to change the face of carrier access markets forever.

As a result, a more pragmatic approach to the transitional deregulation of carrier access markets would be to substitute monitoring for prediction to some extent: institute streamlined and nondominant regulatory treatment when the simple standards described above are met and monitor the subsequent development of competition in those markets. Increased competition, the development of new services and technologies and the reduction of the regulatory burden all lead to uncertain and inherently unpredictable changes in the competitive landscape. Delaying

regulatory reform by waiting until its consequences can be predicted with great confidence would impose great costs on consumers. A far better use of society's regulatory resources would be to implement these simple tests and monitor the results.

VI. CONCLUSION

Economic theory provides a useful guide to the elements of a competitive analysis, but it does not supply a bright-line test that can be used in an adversarial proceeding to determine when existing competitors discipline the market price sufficiently to warrant particular reductions in regulatory restrictions. The critical feature of the market that theory points toward is the profitability of an increase in the price of the service above its competitive level. The critical empirical feature of the carrier access markets in question here is the sensitivity of demand by the three IXC customers to any differences in price where there are multiple suppliers.

These features suggest that reductions in regulatory restrictions should be keyed to geographic, product, and customer markets where IXCs can use multiple suppliers of carrier access to reach a significant fraction of their end-user customers. The proportion of demand addressable by multiple suppliers provides a reasonable, simple and feasible test to trigger streamlined regulation and ultimately regulation as a nondominant supplier.

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
ALABAMA				
	Anniston	Interstate FiberNet/MPX		
	Auburn	Interstate FiberNet/MPX		
	Birmingham	Interstate FiberNet/MPX, Metrex, Privacom	Birmingham	American Comm. Svcs. (ACSI), Intelcom Group
	Gadsden	Interstate FiberNet/MPX	Huntsville	American Comm. Svcs. (ACSI)
	Homewood	Metrex	Mobile	American Comm. Svcs: (ACSI), Intermedia, KMC
	Opelika	Interstate FiberNet/MPX	Montgomery	American Comm. Svcs. (ACSI)
	Tuscaloosa	Interstate FiberNet/MPX		
	Pell City	Interstate Fibernet		
	Leeds	Interstate Fibernet		
			Tucson	ACSI,Brooks Fiber, GST Telcom
ARIZONA	Phoenix	TCG,ICG,GST Telcom,ELI, MFS		
			Nogales	GST Telecom
			Tempe	InteCom Group
			Scottsdale	MFS
			Chandler	Teleport
			Mesa	TCI, Times Mirror - Cox
ARKANSAS	Little Rock	American Comm. Svc.	Little Rock	Brooks Fiber Properties, Metro Access
	North Little Rock	American Comm. Svc.	North Little Rock	Brooks Fiber
CALIFORNIA	Alameda	MFS, TCG	Alameda	IntelCom (ICG)
	Altadena	MFS	Bakersfield	Brooks Fiber
	Anahiem	IntelCom Group (ICG), Linkatel/TW, MFS, TCG	Belmont	PFI
	Antioch	TCG	Bishop Ranch	TCG, MFS
	Belmont	MFS, TCG	Burlingame	MFS
	Berkeley	TCG	Carlsbad	MFS
	Beverly Hills	MFS, TCG	Chula Vista	Time Warner (TW)
	Brea	TCG	Clairmont	MFS
	Buena Park	MFS	Colton	PLI
	Burbank	IntelCom Group (ICG), MFS, MTEL, TCG	Concord	TCG
	Burlingame	TCG	Costa Mesa	MFS, TCG
	Canoga Park	IntelCom Group (ICG), Linkatel/TW, MFS, TCG	Cypress	Linkatel
	Carmichael	PFI	Danville	TCG
	Century City	Linkatel, MFS, TCG	DelMar	Time Warner (TW), Linkatel
	Citrus Heights	PFI	Dominguez Hills	Linkatel
	Colton	MFS	Dublin	TCG
	Compton	IntelCom Group (ICG), MTEL,TCG	El Cajon	Time Warner (TW)
	Culver City	MFS, TCG	El Segundo	Linkatel
	Cupertino	MFS, TCG	El Sorbranto	TCG
	Daly City	MFS,TCG	Emeryville	TCG

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
CALIFORNIA (cont'd)	Davis	IntelCom (ICG)	Fairfield	TCG
	Dominguez Hills	TCG	Fashion Island	IntelCom Group (ICG)
	East Los Angeles	TCG	Folsom	ELI, PFI
	El Segundo	MFS, TCG	Fresno	Brooks Fiber
	Emeryville	MFS	Fullerton	MFS
	Fair Oaks	ELI, PFI	Gardena	MFS
	Folsom	ELI, PFI	Golden Triangle	Time Warner (TW), Linkatel
	Foster City	MFS, TCG	Hayward	MFS, Brooks Fiber
	Fremont	IntelCom Group (ICG), MFS,TCG	Hillsborough	MFS
	Garden Grove	IntelCom Group (ICG), MTEL	Huntington Park	TCG
	Gardena	TCG	Irvine	Linkatel, MFS, IntelCom Group (ICG)
	Glendale	MFS, TCG	Kearny Mesa	Time Warner (TW), Linkatel
	Golden Triangle	MFS, TCG	La Jolla	Time Warner (TW), Linkatel
	Hawthorne	MFS	La Puente	Pacific Lightwave
	Hayward	TCG	Larkspur	TCG
	Hillsborough	TCG	Livermore	TCG
	Hollywood	MFS, TCG	Long Beach	MFS,Teleport
	Inglewood	MFS, TCG	Los Altos	TCG
	Kearny Mesa	MFS, TCG	Los Angeles	Pacific Lightwave (PLI)
	La Jolla	MFS, TCG	Marin	TCG
	Laguna Hills	MFS	Martinez	TCG
	Los Angeles	MFS, TCG, IntelCom Group (ICG), Linkatel	Menlo Park	Brooks Fiber
	Los Gatos	Bay Area Transport	Millbrae	MFS
	Menlo Park	MFS	Mission Valley	Linkatel, Time Warner (TW)
	Milpitas	TCG, MFS, Brooks	Mission Viejo	TCG
	Mission Valley	TCG, MFS	Morena	MFS
	Morgan Hill	Bay Area Transport	Mountain View	TCG
	Mountain View	MFS, IntelCom (ICG)	Napa	TCG
	Newport Beach	MFS, TCG, MTEL/ (ICG), Linkatel/TW	Newport Beach	Linkatel
	North Ridge	MFS	North Ridge	TCG
	Oakland	TCG, MFS, IntelCom Group (ICG)	Novato	TCG
	Ontario	IntelCom Group (ICG), Pacific Lightwave	Ontario	Pacific Lightwave
	Orange	MFS, IntrelCom Group (ICG)	Orange	MFS, IntelCom Group (ICG)
	Palo Alto	TCG, MFS, Brooks	Palm Springs	Pacific Lightwave
	Pasadena	MFS	Pasadena	TCG
	Pitsburg	TCG	Petaluma	IntelCom (ICG), TCG
	Rancho Cordova	PFI, ELI, IntelCom Group (ICG)	Pleasanton	TCG, MFS
	Rialto	PLI	Rancho Bernardo	Linkatel, Time Warner (TW), MFS
	Riverside	PLI, IntelCom Group (ICG)	Red Hills	IntelCom Group (ICG)
	Rodondo Beach	MFS, TCG	Redwood City	MFS
	Sacramento	PFI/Brooks, ELI, IntelCom Group (ICG)	Rialto	Pacific Lightwave
	San Bernadino	Pacific Lightwave	Richmond	TCG
	San Bruno	MFS, TCG	Rodeo	TCG

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
CALIFORNIA (cont'd)	San Carlos	MFS, TCG	Rodondo Beach	Linkatel
	San Diego	TCG, MFS, Electric Lightwave (EL)	Rohnert Park	IntelCom Group (ICG)
	San Francisco	TCG, MFS, IntelCom Group (ICG)	Sacramento	MFS, TCG, ELI
	San Jose	TCG, MFS, Brooks	San Bernadino	Pacfic Lightwave
	San Juan Capistrano	TCG	San Carlos	PFI
	San Leandro	TCG	San Diego	Linkatel, Time Warner (TW)
	San Mateo	MFS, TCG	San Francisco	MFS
	Santa Ana	MFS, IntelCom Group (ICG), Linkatel/TW	San Leandro	MFS
	Santa Clara	TCG, MFS, PFI	San Rafael	MFS
	Santa Monica	MFS,Teleport	San Ramon	TCG
	Sherman Oaks	MFS, TCG, MTEL/IntelCom Group (ICG)	Santa Ana	TCG
	Sorento Mesa	TCG, MFS	Santa Barbara	MFS
	Sunnyvale	MFS, TCG, Brooks	Santa Clara	MFS, TCG, PFI
	Torrance	MFS	Santa Rosa	IntelCom (ICG)
	Van Nuys	MFS, TCG	Santiago	IntelCom (ICG)
	Walnut Creek	IntelCom (ICG)	Sierra Mesa	MFS
	West Hollywood	TCG, MFS	Sonoma	TCG
	West Los Angeles	MFS,Teleport	Sorento Mesa	Time Warner (TW), Linkatel
	West Sacramento	PFI, ELI	Stockton	Brooks Fiber
	Wilshire Corridor	MFS, TCG	Torrance	Linkatel
	Woodland Hills	MFS, TCG, MTEL/IntelCom Group (ICG)	Tustin	MFS, TCG
			Walnut Creek	TCG, MFS
COLORADO	Boulder	IntelCom Group	Boulder	MFS, TCG
	Colorado Springs	IntelCom Group		
	Denver	IntelCom Group, TCG, MFS	Denver	MCI Metro
CONNECTICUT	Hartford	Brooks Fiber Comm, MCI Metro, MFS, TCG	Danbury	Cablevision Lightpath
			New Haven	MFS, TCG
	Meriden	TCG	New London	TCG
	West Hartford	TCG		
	Windsor	TCG		
	Windsor Locks	TCG		
	Stamford	MFS	Stamford	Cablevision LightPath, MCI Metro
			Torrington	MCI Metro
			Entire State	SPRINT

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
DELAWARE	Wilmington	MFS, MCI Metro, Eastern Telelogic		
	New Castle County	MFS,ETC,LOCATE		
DIST. OF COL.	Washington Met	MFS, LOCATE, MCI Metro		
FLORIDA	Boyton Beach	LOCATE	Bradenton	ICI,Time Warner
	Coral Gables	TCG,Intermedia	Ft. Lauderdale	American Comm. Svcs. Inc. (ACSI), MCI Metro/ATS
	Cutler Ridge	TCG	Gainesville	Alternative Comm. Networks, Inc. (ACN)
	Delray Beach	LOCATE	Jacksonville	American Comm. Svcs. Inc. (ACSI)
	Fort Lauderdale	TCG	Lakeland	City of Lakeland
	Hileah	TCG,Intermedia	Maitland	MFS
	Hillsboro	Tampa Elec.	Miami	American Comm. Svcs. Inc. (ACSI), MFS
	Jacksonville	Intermedia, AlterNet, Jacksonville Teleport	Orlando	American Comm. Svcs. Inc. (ACSI)
	Kendall	TCG	Pensacola	American Comm. Svcs. Inc. (ACSI)
	Maitland	Intermedia	South Florida	TCI, Commercial Comm. Systems, Time Warner
	Manatee	Tampa Elec.	St. Petersburg	Time Warner
	Medley	TCG	Tampa	Time Warner
	Melbourne	IntelCom Group (ICG)	Unspecified	Commercial Communications Systems, Time Warner,
	Miami	Intermedia, TCG, WinStar Wireless		Comcast, Jones Lightwave, Digital Media Partners, H
	North Miami	TCG	West Palm Beach	American Comm. Svcs. Inc. (ACSI)
	Opa-Locka	TCG		
	Orlando	Intermedia		
	Sarasota	Tampa Elec.		
	St. Petersburg	MFS, ICI, Jones Lightwave		
	West Miami	Intermedia		
	West Palm Beach	TCG, Intermedia		
	Winter Park	Intermedia		
	Tampa	MFS, ICI, Jones Lightwave, Tampa Elec.		
GEORGIA	Alpharatta	MFS, Southern Multimedia	Albany	ACSI
	Athens	Interstate FiberNet, American Comm. Svcs. Inc. (ACSI)	Athens	ACSI
	Atlanta	Southern Multimedia, WinStar Wireless	Atlanta	ACSI
		MFS, Jones Lgt., MCI Metro/ATS, Interstate FiberNet	Buckhead	MCI Metro
		American Comm. Svcs. Inc. (ACSI)	Macon	ACSI
	Augusta	Jones Intercable	Marietta	MCI Metro
	Buckhead	MCI Metro,MFS, Southern Multimedia	Norcross	MCI Metro
	Chamblee	MCI Metro, Southern Multimedia		
	Columbus	Interstate FiberNet		
	East Point	Southern Multimedia		
	LaGrange	Interstate FiberNet		
	Macon	American Comm. Svcs. Inc. (ACSI)		
	Marietta	MFS, Southern Multimedia		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
GEORGIA	Newnan	Interstate FiberNet		
	Norcross	MFS, Southern Multimedia		
	Roswell	MFS		
	Savannah	PalmettoNet		
	Tucker	MFS, Southern Multimedia		
HAWAII	Honolulu	Digital Transport Inc. (DTI), Oceanic, GST	Hawaii	Time-Warner
			Kauai	GST
			Lanai	GST
			Maui	GST
			Molokai	GST
	Oahu	Digital Transport Inc. (DTI), Oceanic		
IDAHO			Boise	Phoenix Fiberlink
ILLINOIS	Chicago (Metro)	MFS, Teleport, MCI Metro		
	Dekalb	Norlight		
	Wheaton	MCI		
INDIANA	Indianapolis	MCI (Trial only)		
	Fort Wayne	US Signal		
	Terre Haute	CNI		
IOWA	Des Moines	McLeod		
	Cedar Rapids	McLeod		
KANSAS	Andover	Multimedia Hyperion, KINNET		
	Bonner Springs	KINNET		
	Cedar Vale	KINNET		
	Chautauqua	KINNET		
	Cherryvale	KINNET		
	Colby	KINNET		
	Dearing	KINNET		
	Dodge City	KINNET		
	Eastborough	KINNET		
	Edwardsville	KINNET		
	El Dorado	KINNET		
	Emporia	KINNET		
	Fairway	Kansas City Fibernet		
	Garden City	KINNET		
	Hays	KINNET		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
KANSAS (cont'd)	Hutchinson	KINNET		
	Iola	KINNET		
	Kansas City	KINNET,Kansas City Fibernet	Kansas City	MFS
	Kechl	Multimedia Hyperion		
	Kinsley	KINNET		
	La Crosse	KINNET		
	Lansing	Kansas City Fibernet		
	Latimer	KINNET		
	Lawrence	KINNET		
	Leavenworth	Kansas City Fibernet		
	Leawood	Kansas City Fibernet		
	Lenexa	Kansas City Fibernet, KINNET		
	Liberal	KINNET		
	Medicine Lodge	KINNET		
	Merriam	Kansas City Fibernet		
	Mission	Kansas City Fibernet		
	Mission Woods	Kansas City Fibernet		
	Ottawa	KINNET		
	Overland Park	Kansas City Fibernet, KINNET		
	Paola	KINNET		
	Park City	Multimedia Hyperion		
	Parsons	KINNET		
	Phillipsburg	KINNET		
	Plainville	KINNET		
	Pratt	KINNET		
	Prairie Village	Kansas City Fibernet		
	Protection	KINNET		
	Roeland Park	Kansas City Fibernet		
	Salina	KINNET		
	Shawnee	Kansas City Fibernet, KINNET		
	Smith Center	KINNET		
	South Hutchinson	KINNET		
	Stafford	KINNET		
	Sublette	KINNET		
	Topeka	KINNET		
	Wellington	KINNET		
	Westwood	Kansas City Fibernet		
	Wichita	Multimedia Hyperion, KINNET		
	Winfield	KINNET		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
KENTUCKY	Calvert City	Kentucky Data Link		
	Castelberry	Kentucky Data Link		
	Georgetown	LOCATE		
	Lexington	ASCI		
	Louisville	ACSI,Americall,ICG	Louisville	Louisville Lightwave
	Madisonville	Kentucky Data Link		
	Paducah	LOCATE, Kentucky Data Link		
	Princeton	Kentucky Data Link		
LOUISANA	New Orleans	Two-Way Communications, LOCATE, Cox FiberNet	Baton Rouge	American Comm. Svcs. (ACSI)
			Lafayette	American Comm. Svcs. (ACSI)
			Monroe	Interstate FiberNet
			New Orleans	ACSI, MCI Metro/ATS, LA FiberNet
				LeveeComm., MFS
			Shreveport	American Comm. Svcs. (ACSI), Interstate Fibernet
			Unspecified	Paramount Wireless
MAINE			Southern Area	TCG, Time Warner
MARYLAND	Baltimore	MFS, Balt. Gas & Elec., LOCATE, MCI Metro, TCG		
	Baltimore City	MFS,BG&E,LOCATE,MCI METRO,TCG		
	Baltimore County	MFS,BG&E,LOCATE,MCI METRO,TCG		
	Gloucester County	Eastern TeleLogic, Teleport		
	Mercer County	Eastern TeleLogic, Teleport		
	Montgomery County	MFS,LOCATE,MCI METRO		
	Prince George's County	MFS,LOCATE,MCI METRO		
MASSACHUSETTS	Acton	MFS	Boston	Sprint Telecommunications Venture (STV)
	Andover	MFS, TCG		Cablevision
	Bedford	MFS	Braintree	MFS
	Belmont	MFS	Chestnut Hill	MFS
	Beverly	MFS	Dorchester	MFS
	Billerica	MFS	Gloucester	MFS
	Boston	MFS, TCG, LOCATE, MCI Metro	Lanesboro	MFS
	Boxboro	MFS	Marlboro	MFS
	Brookline	MFS	Newburyport	MFS
	Brockington	TCG	Tewksbury	MFS
	Burlington	MFS, TCG		
	Cambridge	MFS, TCG		
	Canton	MFS		
	Charlestown	MFS		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
MASSACHUSETTS (cont'd)	Chelmsford	MFS		
	Concord	MFS		
	Danvers	MFS		
	Dedham	TCG		
	Easton	TCG		
	Foxboro	MFS		
	Framingham	MFS, TCG		
	Hudson	MFS		
	Hyannis	MFS		
	Kingston	MFS		
	Lawrence	TCG		
	Lexington	MFS		
	Lincoln	MFS		
	Littleton	MFS		
	Lowell	MFS		
	Malden	TCG		
	Marblehead	MFS		
	Mashpee	MFS		
	Medford	MFS, TCG		
	Medway	MFS		
	Natick	TCG		
	Needham	MFS, TCG		
	Newton	MFS, TCG		
	North Billerica	MFS		
	North Chelmsford	MFS		
	North Reading	TCG		
	Norwell	MFS		
	Peabody	MFS		
	Quincy	MFS, TCG		
	Reading	MFS, TCG		
	Revere	MFS		
	Rockland	MFS		
	Somerville	MFS, TCG		
	Springfield	Brooks		
	Taunton	MFS		
	Wakefield	MFS		
	Waltham	MFS, TCG		
	Watertown	MFS		
	Wellsley	MFS		
	Westboro	MFS		
	Weston	MFS		
	Wilmington	MFS, TCG		
	Woburn	MFS, TCG		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
MICHIGAN	Detroit	MFS, Teleport, MCI		
	Grand Rapids	US Signal,AT&T		
	Holland	US Signal		
	Muskegon	US Signal		
	Traverse City	US Signal		
	Zeeland	US Signal		
MINNESOTA	Minneapolis-St. Paul	MFS, Paragon Cable/FibrCom		
MISSISSIPPI	Jackson	Access Transmission Svcs.	Biloxi	American Comm. Svcs. (ACSI)
			Gulfport	Interstate FiberNet
			Hattiesburg	Interstate FiberNet
MISSOURI	Belton	Kansas City Fibernet		
	Berkeley	MFS		
	Brentwood	MFS		
	Bridgeton	MFS		
	Chesterfield	MFS,TCG		
	Clayton	MFS,TCG		
	Cool Valley	MFS		
	Creve Coeur	MFS.TCG		
	Edmundson	MFS		
	Gladstone	Kansas City fibernet		
	Grandview	Kansas City fibernet		
	Hanley Hills	MFS		
	Hazelwood	MFS		
	Independence	Kansas City fibernet		
	Kansas City	Kansas City fibernet	Kansas City	MFS
	Kinloch	MFS		
	Ladue	MFS,TCG		
	Lee's Summit	Kansas City fibernet		
	Liberty	Kansas City fibernet		
	Maryland Heights	MFS, TCG		
	Normandy	MFS		
	North Kansas City	Kansas City fibernet		
	Oaks	Kansas City fibernet		
	Oakview	Kansas City fibernet		
	Oakwood Park	Kansas City fibernet		
	Oakwood	Kansas City fibernet		
	Olivette	MFS, TCG		
	Overland	MFS, TCG		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
MISSOURI (cont'd)	Pagedale	MFS		
	Parkville	Kansas City fibernet		
	Pleasant Valley	Kansas City fibernet		
	Raytown	Kansas City fibernet		
	Richmond Heights	MFS, TCG		
	St. Louis	MFS, TCG	St. Louis	Digital Teleport, Intermedia Comm., MCI Metro, SP T
	St. Ann	MFS	Springfield	Springfield FiberNet
	University Park	MFS, TCg		
	Vinita Park	MFS		
	Vinita Terrace	MFS		
	Wellston	MFS		
	Westwood	TCG		
MONTANA				
NEBRASKA	Omaha	TCG		
NEVADA	Las Vegas	City Signal	Reno	Phoenix Fiber
NEW HAMPSHIRE	Portsmouth	TCG	Nashua	MFS
			Portsmouth	TCG
			Southern Area	MFS
NEW JERSEY	Bergen County	MFS, MH Lightnet, Teleport		
	Burlington County	Eastern TeleLogic ,Teleport		
	Camden County	Eastern TeleLogic ,Teleport		
	Essex County	MFS, MH Lightnet, Teleport		
	Hudson County	MFS, MH Lightnet, Teleport		
	Middlesex County	MFS, MH Lightnet, Teleport		
	Morris County	MFS, MH Lightnet, Teleport		
	Passaic County	MFS, MH Lightnet, Teleport		
	Somerset County	MFS, MH Lightnet, Teleport		
	Union County	MFS, MH Lightnet, Teleport		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
NEW MEXICO			Albuquerque	American Comm. Svc., Brooks, GST Telecom of NM Phoenix FiberLink of NM
			Las Cruces	GST Telecom of NM
			Farmington	GST Telecom of NM
			Sante Fe	GST Telecom of NM
NEW YORK	Albany	ACC, MFS, Hyperion	Albany	STV, Time Warner, Southwestern Bell Mobile (SBMS)
	Amagansett	MFS, Hyperion, LOCATE		
	Amherst	MFS, Hyperion, LOCATE		
	Amsterdam	ACC, MFS, Hyperion		
	Armonk	MFS, TCG, NNI		
	Binghamton	Hyperion	Binghamton	Time Warner
	Blasdell	MFS, Hyperion, LOCATE		
	Buffalo	MFS, Hyperion, LOCATE	Buffalo	STV, SBMS
	Camillus	ACC, Frontier, Hyperion, Time Warner		
	Cheektowaga	MFS, Hyperion, LOCATE		
	Cicero	ACC, Frontier, Hyperion, Time Warner		
	Clay DeWitt	ACC, Frontier, Hyperion, Time Warner		
	Depew	MFS, Hyperion, LOCATE		
	East Hampton	MFS, Hyperion, LOCATE		
	East Islip	MFS, Hyperion, LOCATE		
	East Syracuse	ACC, Frontier, Hyperion, Time Warner		
	Fairmount	ACC, Frontier, Hyperion, Time Warner		
	Fayetteville	ACC, Frontier, Hyperion, Time Warner		
	Garden City	MFS, Hyperion, LOCATE		
	Geddes	ACC, Frontier, Hyperion, Time Warner		
	Great Neck	MFS, Hyperion, LOCATE		
	Harris Hill	MFS, Hyperion, LOCATE		
	Hauppage	MFS, Hyperion, LOCATE		
	Hempstead	MFS, Hyperion, LOCATE		
	Huntington	MFS, Hyperion, LOCATE		
	Jericho	MFS, Hyperion, LOCATE		
	Kenmore	MFS, Hyperion, LOCATE		
	Lakawana	MFS, Hyperion, LOCATE		
	Lake Ronkonkoma	MFS, Hyperion, LOCATE		
	Lake Success	MFS, Hyperion, LOCATE		
	Lancaster	MFS, Hyperion, LOCATE		
	Liverpool	ACC, Frontier, Hyperion, Time Warner		
	Long Island	TCG, Cablevision, LOCATE, MFS	Ithaca	Time Warner
	Lyncourt	ACC, Frontier, Hyperion, Time Warner		
	Lyndon	ACC, Frontier, Hyperion, Time Warner		
	Lysander	ACC, Frontier, Hyperion, Time Warner		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
NEW YORK (Cont'd)	Mamaroneck	MFS, TCG, NNI		
	Manlius	ACC, Frontier, Hyperion, Time Warner		
	Mattydale	ACC, Frontier, Hyperion, Time Warner		
	Menands	ACC, MFS, Hyperion		
	Minoa	ACC, Frontier, Hyperion, Time Warner		
	New Hyde Park	MFS, Hyperion, LOCATE		
	New Rochelle	MFS, TCG, NNI		
	N.Y.C.(Metro Area)	MFS, TCG, LOCATE, Cablevision, MCI, Time Warner	New York (Metro)	STV
	North Syracuse	ACC, Frontier, Hyperion, Time Warner		
	Onondaga Reservation	ACC, Frontier, Hyperion, Time Warner		
	Planview	MFS, Hyperion, LOCATE		
	Purchase	MFS, TCG, NNI		
	Rochester	ACC, AT&T, Time Warner, Fibernet of Rochester(MFS)		
	Roslyn Heights	MFS, Hyperion, LOCATE	Rochester	US West, SBMS
	Sag Harbor	MFS, Hyperion, LOCATE		
	Schenectady	ACC, MFS, Hyperion		
	Seaford	MFS, Hyperion, LOCATE		
	Sloan	MFS, Hyperion, LOCATE		
	Solvay	ACC, Frontier, Hyperion, Time Warner		
	Syracuse	ACC, Frontier, Hyperion, Time Warner	Syracuse	SBMS
	Tarrytown	MFS, TCG, NNI		
	Tonawanda	MFS, Hyperion, LOCATE		
	Town Line	MFS, Hyperion, LOCATE		
	Uniondale	MFS, Hyperion, LOCATE		
	Valhalla	MFS, TCG, NNI		
	Valley Stream	MFS, Hyperion, LOCATE		
	Van Buren	ACC, Frontier, Hyperion, Time Warner		
	West Seneca	MFS, Hyperion, LOCATE		
	Westchester	MFS, TCG		
	Westvale	ACC, Frontier, Hyperion, Time Warner		
	White Plains	MFS, TCG, NNI		
	Williamsville	MFS, Hyperion, LOCATE		
	Yonkers	MFS		
NORTH CAROLINA	Charlotte	ICG,Charlotte Axs,LOCATE	Asheville	American Comm. Svcs. (ACSI), Intersate FiberNet
	Durham	FiberSouth,Time Warner	Charlotte	American Comm. Svcs. (ACSI), Intersate FiberNet
	Research Triangle	FiberNet/ICI,Time Warner	Greensboro	American Comm. Svcs. (ACSI), Interstate FiberNet
	Raleigh	Intermedia, FiberSouth, Inc.	Greensboro	IntelCom Group (ICG), DukeNet Comm. Inc. (DCI)
			High Point	Interstate FiberNet
NORTH DAKOTA				

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
OHIO	Akron	IntelComGroup	Butler	IntelCom
	Cincinnati	IntelCom Group, Time-Warner, Intermedia Comm. Inc.	Clark	IntelCom
	Cleveland	MFS, MCI Metro	Cleveland	Time Warner
	Columbus	Intelcom Group, MCI Metro, Time Warner	Cleveland-Cuyahoga	City Signal, IntelCom, MFS, Time-Warner, TCG
	Dayton	MCI	Columbus-Franklin	MCI Metro, MFS
	Lima	Time-Warner	Crawford	Cablevision
	Mansfield	Adelphia	Delaware	Fibertel, Time-Warner
	Marysville	Time-Warner	Erie	Cablevision
	Mason/Lebanon	Coaxial Cable	Geauga	Cablevision
	Montrose	Teleport		
	Toledo	Intelcom Group	Greene	City Signal
	Warren	TCI	Hamilton	City Signal, FiberNet, IntelCom, Western Union
			Huran	Cablevision
			Lake	Cablevision
			Lorain	Cablevision
			Lucas	City Signal, IntelCom
			Mahoning	City Signal, IntelCom
			Medina	Cablevision, IntelCom
			Montgomery	City Signal, IntelCom
			Montrose	IntelCom
			Morrow	Cablevision
			Oxford	Locate
			Portage	IntelCom, Cablevision
			Richland	Cablevision
			Summit	IntelCom, Time-Warner, Cablevision
			Tipp City	Time-Warner, IntelCom
			Toledo	US Signal
			Troy	Time-Warner, IntelCom
			Trumbell	City Signal, IntelCom
			Union	Fibertel
			Wayne	Cablevision
			Wood	City Signal, IntelCom
OKLAHOMA	Bethany	Brooks Fiber		
	Broken Arrow	Brooks Fiber		
	Catoosa	Brooks Fiber		
	Del City	Brooks Fiber		
	Midwest City	Brooks Fiber		
	Nichols Hills	Brooks Fiber		
	Nicoma Park	Brooks Fiber		
	Oklahoma City	Brooks Fiber Properties, Cox Fibernet, Dobson Fiber	Oklahoma City	Indian Nations Fibernet, Metro Access, MFS
	Owasso	Brooks Fiber		
	Tulsa	Brooks Fiber Properties	Tulsa	MFS

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
OKLAHOMA (cont'd)	Turley	Brooks Fiber		
	Village	Cox FiberNet		
	Warr Acres	Cox FiberNet		
OREGON	Beaverton	ELI, Columbia Cable, MFS	Portland	MCI Metro, MFS, Digital Direct
	Portland	Electric Lightwave, Paragon Cable, Pacnet		
PENNSYLVANIA	Allegeny county	MFS,TCG,TCI		
	Bucks County	MFS,Eastern Telelogic		
	Carlisle	Valleynet		
	Chambersburg	Valleynet		
	Chester County	MFS,Eastern Telelogic		
	Deleware County	MFS,Eastern Telelogic		
	Erie	Teleport, TCI		
	Harrisburg	Hyperion, Penn's Light, Valleynet		
	Montgomery County	MFS,Eastern Telelogic		
	Philadelphia	MFS, Eastern TeleLogic, MCI Metro		
	Pittsburgh	MCI, MFS, TCG		
RHODE ISLAND	State of R. I.	LOCATE	State of R. I.	Cox Cable
	Providence	TCG	Providence	MFS, Jones, Brooks, Cox Cable
SOUTH CAROLINA	Charleston	PalmettoNet, ACSI	Charleston	ICG
	Columbia	PalmettoNet	Columbia	IntelCom Group (ICG), ACSI
	Florence	PalmettoNet	Greenville	IntelCom Group (ICG), Interstate FiberNet
	Greenville	American Comm. Svcs. Inc. (ACSI)	Spartanburg	IntelCom Group (ICG), Interstate FiberNet
	St. George	PalmettoNet		
SOUTH DAKOTA				
TENNESSEE	Memphis	Signal Comm.	Chattanooga	American Comm. Svcs. (ACSI), E.W. Scripps/Hyperio
	Nashville	Signal Comm., ICG	Knoxville	(ACSI), E.W. Scripps/Hyperion, Brooks Fiber
	Germantown	Signal Comm.	Memphis	Time-Warner, Access Transmission Svcs.
	Bartlett	Signal Comm.	Nashville	ACSI, Hyperion, Metro Access Networks Inc..
			Unspecified	MCI Metro, MFS

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
TEXAS	Addison	MFS,TCG		
	Alamo Heights	TWC		
	Aldine	MFS, Phonoscope,TWC		
	Austin	Metro Access, Time Warner Comm. (TWC)	Austin	ACSI, City Signal, MCI Metro, MFS
	Bellaire	MFS, Phonoscope,TWC		Communications Transmission Group, Inc. (CTGI)
	Brushy Creek	TWC	Bellaire	MCI Metro
	Bunker Hill	Phonoscope,TWC	Corpus Christi	ASCI, Grenstar, Metro Access, TWC
	Carollton	MFS,TCG		CSW Communications, Inc.
	Castle Hills	TWC	El Paso	ACSI, Greenstar Telecommunications,
	China Grove	TWC		Metro Access, TWC of El Paso
	Converse	TWC	Harlingen	CSW
	Coppell	TCG	Houston	MCI Metro
	Dallas	MFS,TCG	Laredo	TWC (Fibrcom)
	Denton	Teleport	Lubbock	TCG
	Euless	TCG	McAllen	CSW
	Farmers Branch	MFS,TCG	San Antonio	Metro Access
	Fort Worth	ACSI,Metro Access, TCG		
	Garland	Teleport		
	Grapevine	TCG		
	Headwig	Phonoscope,TWC		
	Highland Park	MFS		
	Hill country	TWC		
	Hillshire	Phonoscope		
	Houston	MFS,Phonoscope,TCG, TWC of Houston		
	Hunters Creek	Phonoscope,TWC		
	Hurst	TCG		
	Irving	TCG		
	Jersey Village	MFS,TWC		
	Jollyvile	TWC		
	Kirby	TWC		
	Lackland AFB	TWC		
	League City	TCG		
	Leon Valley	TWC		
	Lewisville	Teleport		
	Live Oak	TWC		
	Mesquite	TCG		
	Mission Bend	TWC		
	Olmos Park	TWC		
	Pasadena	TCG		
	Piano	TCG, MFS		
	Piney Point	Phonoscope		
	Plano	MFS, TCG		
	Richardson	MCI Metro, MFS, TCg		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
TEXAS (Cont'd)	Richland Hills	TCG		
	Roanoke	TCG		
	Rollingwood	TWC		
	Round Rock	TWC		
	San Antonio	TWC (Fibrcom)		
	Shavano Park	TWC (Fibrcom)		
	South Houtson	TCG		
	Southlake	TCG		
	Southside Place	TWC		
	Spring	TWC		
	Spring Valley	Phonoscope, TWC		
	Terrell Hills	TWC		
	Trophy Club	TCG		
	Universal City	TWC		
	University Park	MFS, TCG		
	Webster Park	TCG		
	West Univ. Place	TWC		
	Westlake	TCG		
	Westlake Hills	TWC		
	Windcrest	TWC		
UTAH	Salt Lake City	Electric Lightwave	Salt Lake City	Phoenix FiberLink of Utah, Quest Comm.
VERMONT			State of Vt.	Hyperion
VIRGINIA	Alexandria	MFS, LOCATE		
	Arlington	MFS, LOCATE		
	Fairfax	MFS, LOCATE,MCI Metro		
	Falls Church	MFS, LOCATE		
	Hampton	Virginia Metrotel, Cox Fibernet		
	Harrisonburg	CFW Network		
	Lynchburg	ValleyNet,ATS(MCI)		
	Newport News	Virginia Metrotel, Cox Fibernet		
	Norfolk	Cox Cable, Virginia Metrotel		
	Richmond	Access Trans. Svcs.(MCI),MFS,Virginai Metrotel		
	Roanoke	ValleyNet,ATS(MCI)		
	Virginia Beach	Cox Cable, Virginia Metrotel		

COMPETITIVE PROVIDERS

STATE	EXISTING CITY/AREA	CP	PLANNED CITY/AREA	CP
WASHINGTON	Bethell	ELI	Seattle	MCI Metro
	Everett	Teleport	Spokane	FiberLink/Tel-West
	Kirkland	ELI, Teleport, MFS		
	Seattle	Electric Lightwave,TCG, MFS		
WEST VIRGINIA	Charleston	ValleyNet		
	Huntington	ValleyNet		
WISCONSIN	Dodgeville	Norlight	Green Bay	Time Warner
	Milwaukee	MCI,MFS,Teleport	Milwaukee	Time Warner
	Wausau	TCI		
WYOMING				